

# Work Order ID 110041

December-17-13 9:06:48 AM

\*110041\*

Page 2

Item ID: 646.9711

Accept

\*N9000040100\*

Setup Start

\*NS1\*

Revision ID:

Stop

\*NS2\*

Item Name: Blade

Start Date: 12/17/13 Start Qty: 70.00

\*70\*

Cust Item ID:

Required Date: 12/17/13 Req'd Qty: 70.00

\*70\*

# Work Order ID 110041

December-17-13 9:06:48 AM

\*110041\*

Page 1

Item ID: 646.9711

Accept

\*N9000040100\*

Setup Start

\*NS1\*

Revision ID:

Stop

\*NS2\*

Item Name: Blade

Start Date: 12/17/13 Start Qty: 70.00

\*70\*

Cust Item ID:

Required Date: 12/17/13 Req'd Qty: 70.00

\*70\*

Customer:

Reference:

Approvals:

Process Plan:

Date: 12-12-17

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start

\*NR1\*

Stop

\*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
646.9700	C

100	BAND SAW	0.00				70	6		12/12/12
*100*									
Bandsaw	Memo	0.00							
Jeaspa Bandsaw	Cut Blank at 4.625"								

110	HAAS CNC VERTICAL MACHINING #1	0.00				70	0		12/12/12
*110*									
HAAS 1	Memo	0.00							
HAAS CNC vertical machine #1	1-Machine per folio FB135 DWG REV: C FOLIO REV: AA								

2- deburr and break all sharp edges except otherwise noted

# Work Order ID 110041

December-17-13 9:06:48 AM

\*110041\*

Page 3

Item ID: 646.9711

Accept

\*N900040100\*

Setup Start

\*NS1\*

Revision ID:

Stop

\*NS2\*

Item Name: Blade

Start Date: 12/17/13 Start Qty: 70.00

\*70\*

Cust Item ID:

Required Date: 12/17/13 Req'd Qty: 70.00

\*70\*

Customer:

Reference:

Run Start

\*NR1\*

Approvals:

Process Plan:

Date:

Tooling:

Date:

Stop

\*NR2\*

QC:

Date:

SPC (Y/N):

Date:

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

150

Receive & Inspect for Damage & Mat'l Certs

0.00

\*150\*

Packaging

Memo

0.00

Packaging

155

QC5- Inspect part completeness to step on W/O

0.00

\*155\*

QC

Memo

0.00

Quality Control

160

Spray Painting per QSI005 4.2

0.00

\*160\*

SprayPaint

Memo

0.00

Spray Painting

PRIME AS PER DWG, SEE NOTE #4

PRIMER BATCH: 127401

*Pay/1/29* *(70)*

*70* *05* *14-01-29*

*70* *0* *0* *12*  
*14-3-22*



# Work Order ID 110041

December-17-13 9:06:48 AM

**\*110041\***

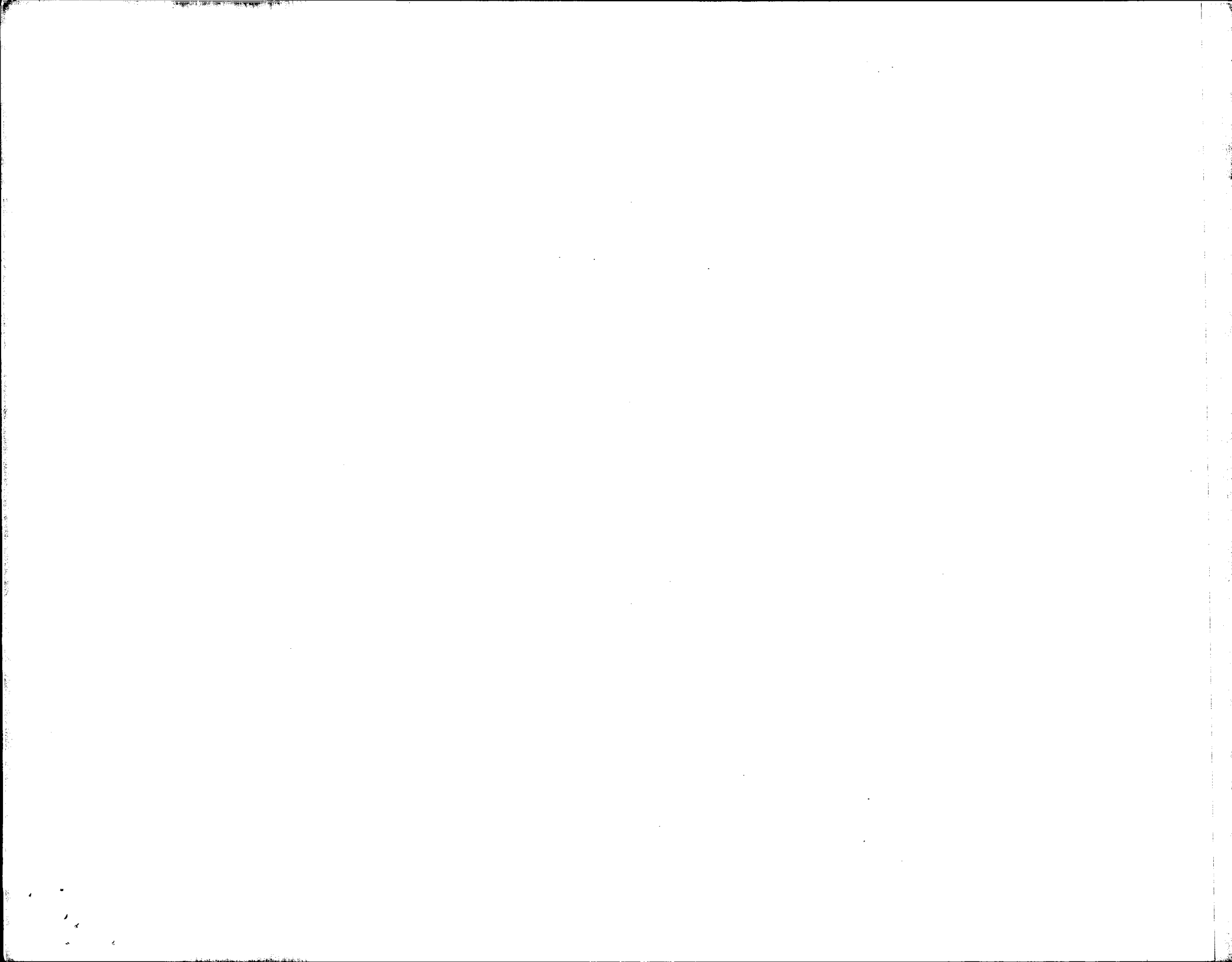
Page 4

Item ID: 646.9711 Accept **\*N900040100\*** Setup Start **\*NS1\***  
Revision ID: Stop **\*NS2\***  
Item Name: Blade  
Start Date: 12/17/13 Start Qty: 70.00 **\*70\*** Cust Item ID:  
Required Date: 12/17/13 Req'd Qty: 70.00 **\*70\*** Customer:  
Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
170 <b>*170*</b> QC Quality Control	QC14- Inspect Spray Paint  Memo	0.00  0.00				70 Coun			
180 <b>*180*</b> Packaging Packaging	Identify as per dwg & Stock Location: _____  Memo	0.00  0.00				14/3/27		70	DAS 32 9-89
190 <b>*190*</b> QC Quality Control	QC21- Final Inspection - Work Order Release  Memo	0.00  0.00				MLJ 14-03-27			

MLJ 14-03-27



# Picklist Print

December-17-13 9:06:48 AM

Page 1

Work Order ID: 110041  
Parent Item: 646.9711  
Parent Item Name: Blade  
Comments: IPP REV:A NEW ISSUE 12/09/24 JFS VERIFY BY:DD

Start Date: 12/17/13 Required Date: 12/17/13  
Start Qty: 70.00 Required Qty: 70.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
MSTEEL-A2- B0.500X1.250 AISI A2 TOOL STEEL BAR, 0.500 X 1.250		Purchased	No			100		235.3170	0.386	28.442106			
							<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>				
							MAT006	235.317					
							M126438	118.4					
							- M127494	116.917					

28.328

MH 12/17/13

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

Work Order: _____  Part No. _____  NCR No. _____	<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/>	<b>AGAINST DEPARTMENT/PROCESS</b>  <table style="width:100%;"> <tr> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>													
Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>													
Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>													
Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>														

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng		Action Description	Sign & Date	Verification	QC Inspector
Design										
Doc/Data										
Equip/Tooling										
Handling/Pre										
Material										
Operator										
Offset/Setup										
Process										
Supplier										
Training										
Transport										
Unapproved										

### FAULT CATEGORY

<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge  <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other _____ _____ _____ _____
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APICAL

INDUSTRIES, INC.

ENGINEERING CHANGE NOTICE NO. 04039

SHEET 1 OF 1

DWG NO. 646.9700

REV: B

PREPARED  
BY

D. PETERS

DATE: 08/09/13

EFFECT ON DWG  
☒ INC. ☐ UNINC.

DWG TITLE: CUTTER SUB ASSY

APPROVED BY:

ENGR

MFG

QC

EFF:

NEXT ORDER

TRANSACTION CODES (TC):  
A-ADD C-CREATE  
R-REVISE D-DELETE

REASON: MARKED INSPECTION DIMENSIONS

ECR:

NONE

110041

DOCUMENTS EFFECTED:

☐ RFMS

☐ MDL

☐ INSTALL INSTRU

☐ ICA

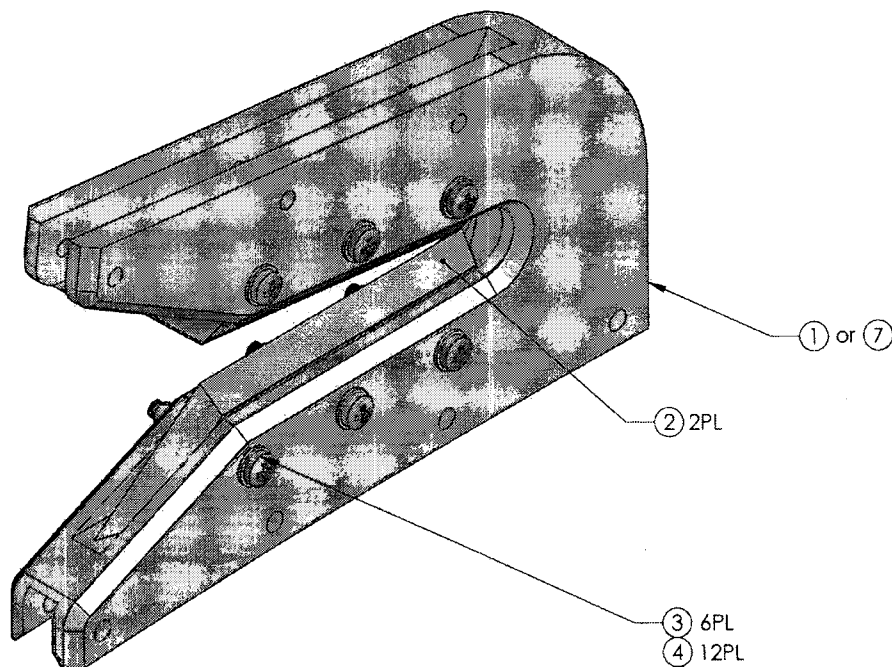
☐ BOM

CHANGE CATEGORY  
☐ MAJOR ☒ MINOR

DER REVIEW REQUIRED  
☐ YES ☒ NO



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646.9701  
or  
646.9702

REVISION			
REV	DESCRIPTION	DATE	APPROVED
1	LAST PROTOTYPE REVISIONS MPP		NIC
2	INITIAL RELEASE	06/29/09	P. BRAYO
A	INCORPORATED ICH 03744, 03838, 03712	08/06/13	P. BRAYO
B	INCORPORATED ECN 03667	07/03/13	P. BRAYO
C	INCORPORATED ICH 04639	08/05/13	P. BRAYO

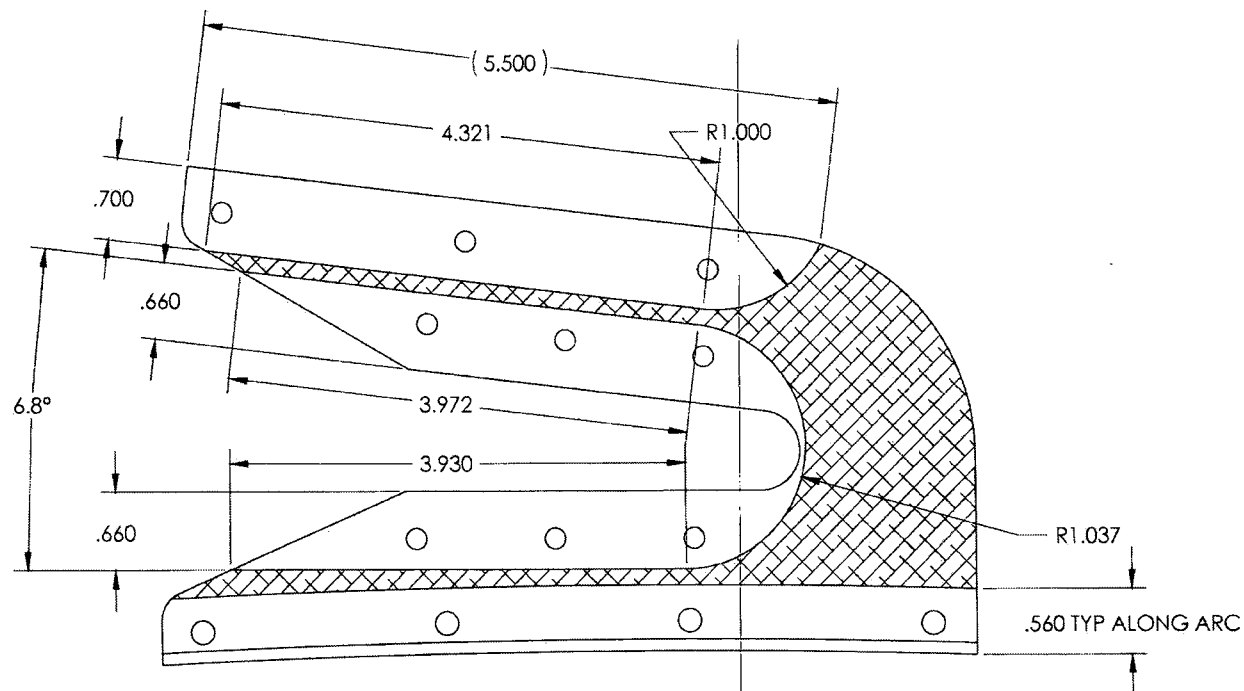
# NOTES:

- 1 MATERIAL: ALUMINUM 7075-T651 PER AMS-QQ-A-250/12
- 2 FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III, CLASS 2, COLOR BLACK; PRETREAT PRC-DESOTO PR-148 ADHESION PROMOTER; PRIME IAW MIL-P-23377J TYPE I CLASS N; 1-2 MIL MAX
- 3 MATERIAL: AISI A2 TOOL STEEL  
CONDITION: ANNEALED  
POST PROCESS: HEAT TREAT TO 58-62 Rc ROCKWELL HARDNESS
- 4 FINISH: PRIME IAW MIL-P-23377J TYPE I CLASS N; 1-2 MIL MAX
- 5 DEBURR AND BREAK ALL SHARP EDGES EXCEPT WHERE OTHERWISE NOTED
- 6 IDENTIFY IAW MPP-120
- 7 APPLY F/N 5 AS REQUIRED TO ALL FAYING SURFACES OF F/N 2 UPON ASSEMBLY
- 8 CUTTING EDGE INTENDED TO BE SHARP, DO NOT BREAK SHARP EDGE
- 9 ALL DIMENSIONS NOT SPECIFIED ARE CONTROLLED BY 646.9710.

116041

1	7	646.9712	BODY (U CHANNEL)	△	△△
6	6	601.1541	LOCKNUT	MS21042L08	
A/R	A/R	5	601.2764	RTV, LOCTITE 598	
12	12	4	601.2764	WASHER	MS1149FH032P
6	6	3	601.2765	SCREW	MS27037-0819
2	2	2	646.9711	BLADE	△
	1	1	646.9710	BODY	△
			646.9702	CUTTER SUB ASSY (U CHANNEL)	
			646.9701	CUTTER SUB ASSY	
9/07	9/01	FIND #	PART #	DESCRIPTION	MAT'L SPEC.
PARTS LIST					
APICAL INDUSTRIES					
2608 TEMPLE HEIGHTS DR.					
OCEANSIDE, CA. 92056-3512 (760)724-5300					
CUTTER SUB ASSY					
UNLESS OTHERWISE SPECIFIED					
DIMENSIONS ARE IN INCHES					
TOLERANCES ARE:					
2 PLACE DECIMALS ± .01					
3 PLACE DECIMALS ± .003					
ANGLES ± .5°					
SHEET 1 OF 6					

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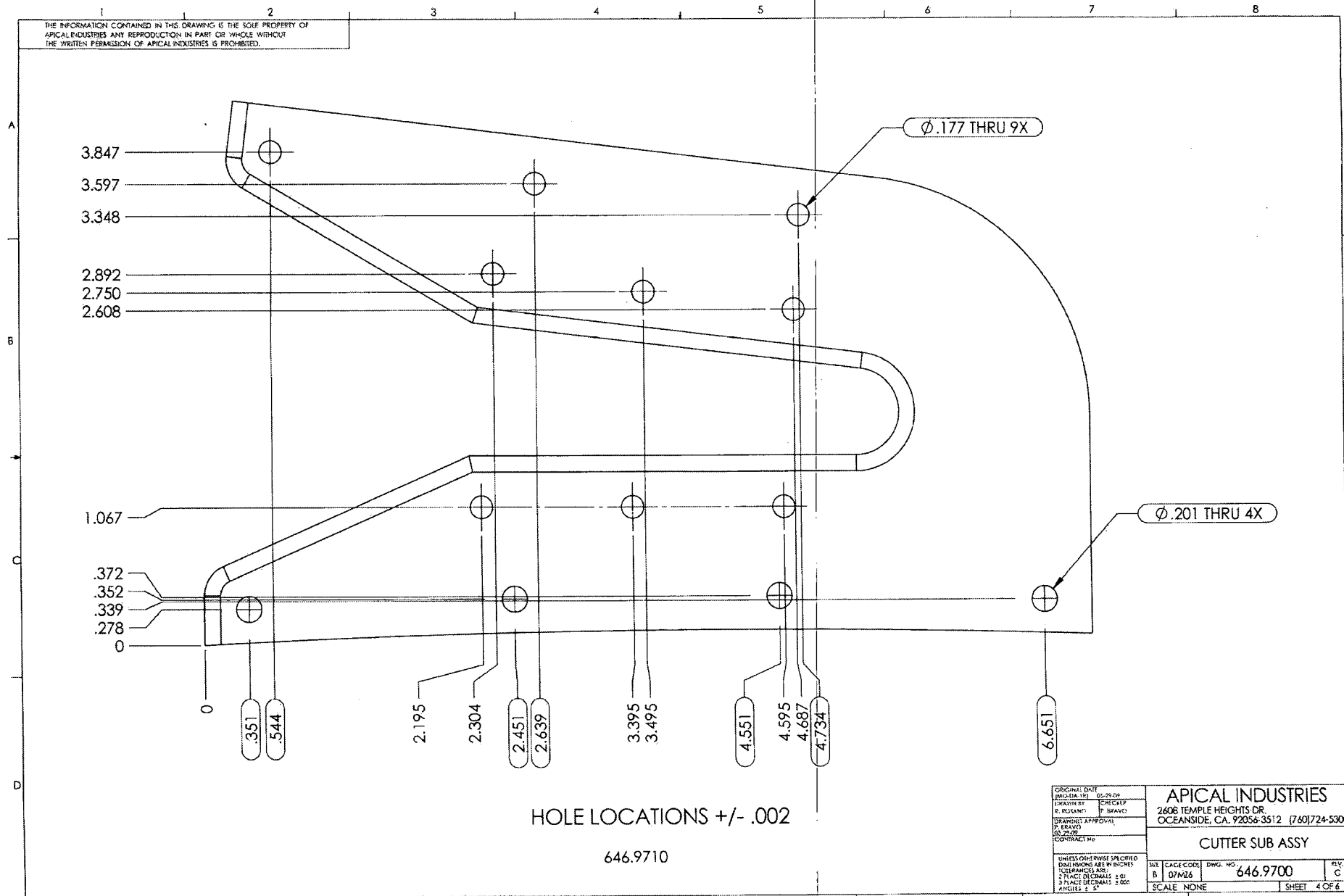
SECTION A-A

646.9710

ORIGINAL DATE 1/10/24/81		BY: J. J. J.	
DRAWN BY: J. J. J.		CHECKED BY: J. J. J.	
DESIGNED BY: J. J. J.		APPROVED BY: J. J. J.	
CONTRACT NO.		SHEET 3 OF 6	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 3 PLACE DECIMALS .001 ANGLES 1/2°		APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760) 724-5300	
SCALE: NONE		CUTTER SUB ASSY	
SHEET 3 OF 6		REV C	
CAGE CODE: 646.9700		DATE: 07/12/16	



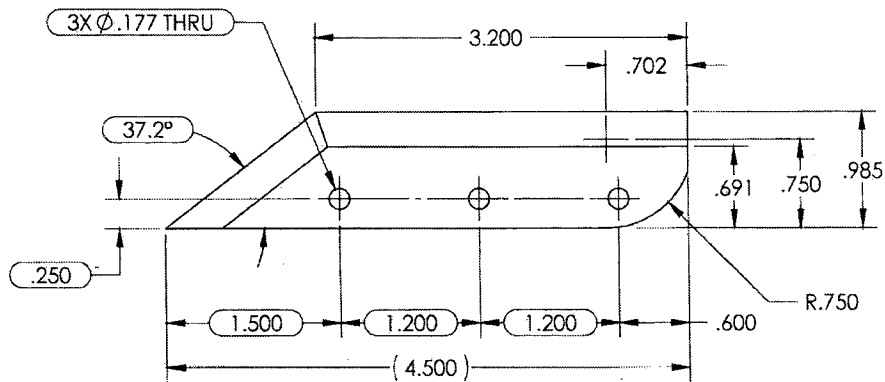
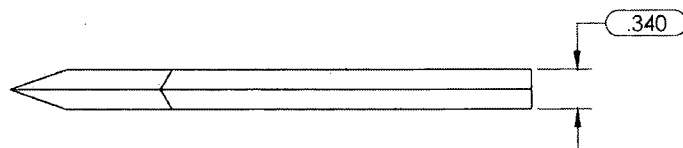
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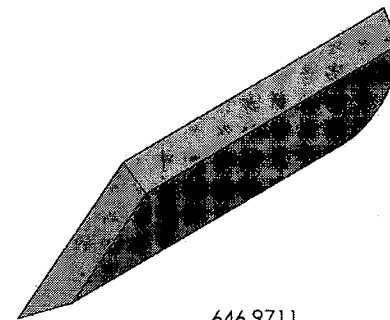
ORIGINAL DATE (MM-DD-YY) 05-20-09		APICAL INDUSTRIES	
DESIGNED BY R. ROJAS		2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
CHECKED BY P. BRAVO		CUTTER SUB ASSY	
DRAWING APPROVAL P. BRAVO 05-20-09			
CONTRACT NO.			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 1 PLACE DECIMALS ± .01 2 PLACE DECIMALS ± .005 ANGLES ± .5°			
SHEET	CAGE CODE 07/02/06	DWG. NO. 646.9700	REV. C
SCALE NONE			SHEET 4 OF 6



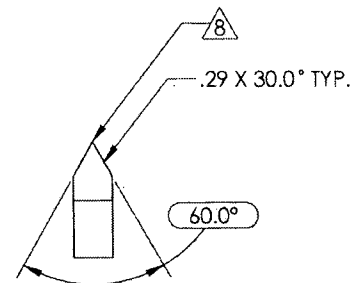
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646.9711



646.9711

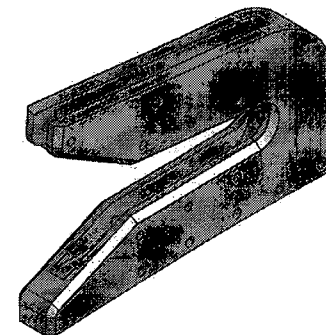
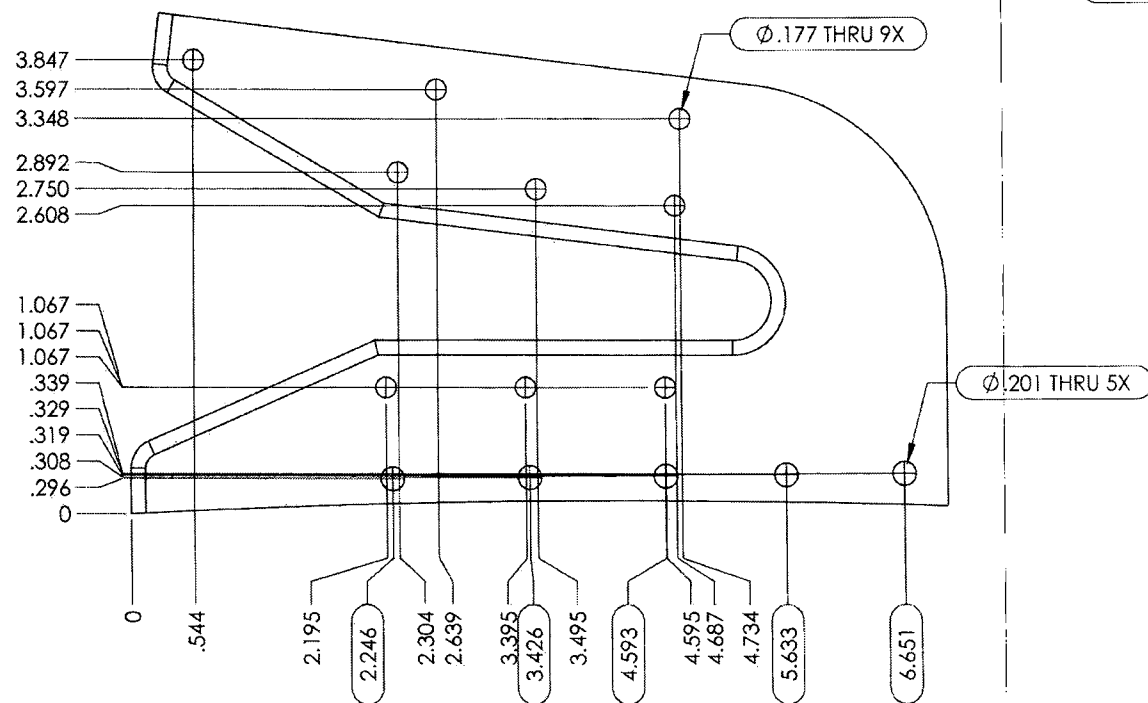


ORIGINAL DATE 11/11/11		APICAL INDUSTRIES	
DRAWN BY R. ROSANO		2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
CHECKED BY P. BRADY		CUTTER SUB ASSY	
DRAWING APPROVAL P. BRADY		SHEET 5 OF 6	
CONTRACT NO.		SCALE NONE	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 3 PLACE DECIMALS ± .01 ANGLES ± .5°		REV. C	
SHEET 5 OF 6		646.9700	





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646.9712  $\triangle 9$

646.9712

ORIGINAL DATE: 05/25/92		APICAL INDUSTRIES	
DRAWN BY: B. POLANO		2608 TEMPLE HEIGHTS DR.	
CHECKED BY: P. BRAVO		OCEANSIDE, CA. 92056-3512 (760) 724-5300	
DRAWING APPROVAL: P. BRANCO (SVP)		CUTTER SUB ASSY	
CONTRACT NO.			
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. TOLERANCES ARE: 3 PLACE DECIMALS ± .003 PLACE DECIMALS ± .010 ANGLES ± .5°		SHEET: 6 OF 6	REV. C
SCALE: NONE		DWG. NO: 646.9700	

<b>DART AEROSPACE LTD</b>		<b>Work Order:</b>	110641
<b>Description:</b> Blade		<b>Part Number:</b>	646.971
<b>Inspection Dwg:</b> 646.971 Rev: C		<b>Page 1 of 1</b>	

### FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
.340	±.005	.343	✓		MH-04	Caliper
3.200	±.005	3.200	✓			
3x .1778	±.005 ±.001	.1785	✓			
.985	±.005	.985	✓			
.750	±.005	.750	✓			
.691	±.005	.693	✓			
.600	±.005	.601	✓			
1.200	±.005	1.200	✓			
1.200	±.005	1.200	✓			
4.500	±.005	4.500	✓			
.250	±.005	.251	✓			
.28 x 30°	±.01 x .5°	.289 x 30°	✓			
37.2°	±.5°	37.2°	✓		angle Digital	

<b>Measured by:</b> MM	<b>Audited by:</b> DAS 40 9-89	<b>Preliminary Approval:</b>
<b>Date:</b> 13/12/22	<b>Date:</b> 14/01/03	<b>Date:</b>

Rev	Date	Change	Revised by	Approved
E	10.04.14	Added preliminary approval	KJ	

10.04.15



Dart Aerospace Ltd.  
1270 Aberdeen Street  
Hawkesbury, ON K6A 1K7  
Tel: 613 632 9577  
Fax: 613 632 1053

## PURCHASE ORDER

Purchase Order ID **PO22579**

Purchase Order Date 1/10/2014

PO Print Date 1/29/2014

Page Number 2 of 2

**Order From :**

VC-MET004

**Ship To :** DART AEROSPACE LTD

METCOR INC.  
560 BOUL. ARTHUR SAUVE  
SAINT-EUSTACHE, QC J7R 5A8  
CA

1270 ABERDEEN  
HAWKESBURY, ON K6A 1K7  
CANADA

**Contact Name**

**Vendor Phone** 450 473 1884

**Buyer**

Chantal Lavoie

**Customer POID**

**Customer Tax #** 10127-2607

**Ship To Contact**

**Terms** Net 30

**Ship To Phone**

**Currency** CAD

**Ship Via:** FedEx PI collect

**FOB** FCA - (Free Carrier)

**Ship Acct:**

3	110041	646.9711 BLADE	1/24/2014 Yes 1/29/2014	70.00	\$2.55	\$178.50
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FINISH: HEAT TREAT TO 58-62 RC  
ROCKWELL HARDNESS

PART ARE MADE FROM AISI A2 TOOL STEEL

PLEASE NOTE: DETAIL C OF C REQUIRED

**Line Total:** \$178.50

4	71425-30	DETAIL C OF C REQUIRED	1/24/2014 Yes 1/29/2014	1.00 Each	\$48.00	\$48.00
---	----------	---------------------------	-------------------------------	--------------	---------	---------

**Line Total:** \$48.00

**PO Total:** \$328.50

**Note:** Pricing listed above is as per contract agreement between Dart Aerospace and the respective manufacturer.  
No substitution or deviation without consent.  
Certificate of Conformity or Material Certification required ☒ YES ☐ NO  
PST# 6122-5207

Change Nbr:

3

Change Date: 1/29/2014

# METCOR INC.

560 BOUL. ARTHUR-SAUVÉ  
ST-EUSTACHE, QC J7R 5A8  
Tel: 450-473-1884 / Fax: 450-491-5498

## Reçu de livraison

Delivery Receipt

BON DE TRAVAIL Order	EXPÉDITEUR Shipper ID	BON D'EXPÉDITION Shipper
192432	1	78132

EXPÉDITION COMPLÈTE / Shipped Complete

CLIENT /Customer 215

**DART AEROSPACE**  
1270 ABERDEEN  
HAWKESBURY, ON K6A 1K7  
Ph: 613-632-5200  
Fax: 613-632-1053

LIVRÉ À /Shipped To

**DART AEROSPACE**  
1270 ABERDEEN  
HAWKESBURY, ON K6A 1K7  
Ph: 613-632-5200  
Fax: 613-632-1053

COMMANDE DU CLIENT Customer PO	BON DE LIVRAISON DU CLIENT Customer Shipper No.	TYPE DE MATÉRIEL Material Type	DATE DE LA COMMANDE Order Date	TRANSPORTEUR Carrier
PO22579		A2	2014/1/13	FEDEX

QUANTITÉ Quantity	No. PIÈCE / Part No.	NOM DE LA PIÈCE / Part Name	DESCRIPTION DE LA PIÈCE Part Description	POIDS Weight
----------------------	-------------------------	--------------------------------	---	-----------------

110 646.3014 BLADE

30,

(20) 109914 -646,3014 BLADE

(20) 109392 -646,9711 BLADE

(70) 110041 -646,9711 BLADE

C OF C REQUIRED

1 BOITE DE CARTON

TYPE DE CONTENEUR Container Type	# DE CONTENEURS # Of Containers	COMMENTAIRES CONTENEUR Container Comments
BOITE DE CARTON	1	

<b>EMPAQUETAGE</b> Packing	
-------------------------------	--

QUANTITÉ EXPÉDIÉE / Quantity Shipped : 110

POIDS EXPÉDIÉ / Weight Shipped : 30,00

QUANTITÉ RESTANTE / Quantity Remaining : 0

POIDS RESTANT / Weight Remaining : 0,00

QUANTITÉ EXPÉDIÉE /Quantity Shipped: 110

POIDS EXPÉDIÉ / Weight Shipped : 30,00

Signature:

Date:

EXPÉDIÉ LE / Shipped On : 2014/01/22



# METCOR INC.

560 BOUL. ARTHUR-SAUVÉ, ST-EUSTACHE, QC, J7R 5A8

Tél.: 450-473-1884

Télécopieur / Fax administration: 450-491-5498

Télécopieur / Fax production: 450 491-6454

## Certificat de Conformité Détaillé .

Detailed Certificate of Compliance

BON DE TRAVAIL order	CHARGEMENT load
192432	1

CLIENT / customer 215

DART AEROSPACE

1270 ABERDEEN

HAWKESBURY

ON K6A 1K7

LIVRÉ À / shipped to:

DART AEROSPACE

1270 ABERDEEN

HAWKESBURY

ON K6A 1K7

1

COMMANDE DU CLIENT customer po	BON DE LIVRAISON DU CLIENT customer shipper no.	MATÉRIEL material	CODE DE TRAITEMENT mat'l heat code	NUMÉRO DE LOT lot number
P022579		A2		

### SPÉCIFICATIONS DU PROCÉDÉ processing specifications

VAC HARDEN

HARDEN AND TEMPER

EXIGENCE / requirement	SPÉCIFICATIONS / specified	TESTS EXÉCUTÉS / performed	RÉSULTATS DE TESTS / results
HARDNESS	58 - 62 HRC	8	59.0 - 61.0 HRC

QUANTITÉ quantity	POIDS weight	DESCRIPTION DES PIÈCES parts description
110	30	646.3014 BLADE (20) 109914 -646,3014 BLADE (20) 109392 -646,9711 BLADE (70) 110041 -646,9711 BLADE C OF C REQUIRED 1 BOITE DE CARTON

Operation	Temp. spécifiée Specified Temp	Temps de tremp Spécifié Specified Soak Temp	Atmosphere	Carbone Carbon Potential	Q-Media Q-Temp	Four # Furnace #	Date Départ Start Date	Heure d'entrée Time In	Heure de sortie Time Out	Date Complétée Date complete
1.00 CONT. INIT.	LAVAGE		si nécessaire							
2.00 PREPARING	COMPTAGE									
3.00 PREHEAT 1	1200	0:30	VAC			390				
4.00 PREHEAT 2	1500	0:30	VAC			390				
5.00 VAC HARDE	1800	1 hrs 30 minutes	VAC		AZOTE	390				
6.00 TEMPER	400+/-10°F	2 hrs	air			651				
7.00 TEMPER 2	400+/-10°F	2 hrs	air			651				

# METCOR INC.

560 BOUL. ARTHUR-SAUVÉ, ST-EUSTACHE, QC, J7R 5A8

Tél.: 450-473-1884

Télécopieur / Fax administration: 450-491-5498

Télécopieur / Fax production: 450 491-6454

## Certificat de Conformité Détaillé

Detailed Certificate of Compliance

BON DE TRAVAIL order	CHARGEMENT load
192432	1

CLIENT / customer 215

DART AEROSPACE

1270 ABERDEEN

HAWKESBURY

ON K6A 1K7

LIVRÉ À / shipped to:

DART AEROSPACE

1270 ABERDEEN

HAWKESBURY

ON K6A 1K7

1

Operation	Temp. spécifiée Specified Temp	Temps de trempé Spécifié Specified Soak Temp	Atmosphere	Carbone Carbon Potential	Q-Media Q-Temp	Four # Furnace #	Date Départ Start Date	Heure d'entrée Time In	Heure de sortie Time Out	Date Complétée Date complete
8.00 HARDN INS										
9.00 FINAL INSP							01-22-2014			01-22-2014

### COMMENTAIRES / comments

Le traitement thermique (TT) a été fait en utilisant des équipements en conformité avec la spécification demandée. Toutes les opérations de TT ont été faites en conformité avec les requis de la spécification demandée et toutes les vérifications et les tests demandés ont été faites et documentés. Aucun changement n'a été faite par rapport au TT. On certifie que le matériel a été fabriqué, échantillonné, testé et inspecté en accord avec les spécifications du matériel et le bon de commande et le matériel rencontre les exigences spécifiées.

Heat treatment (HT) was performed with equipment that meets the requirements of requested specification. All HT operations were performed in compliance with the required HT specification and all verifications have been performed and documented. No unauthorized changes were performed in regards to the HT. We certify that the material was manufactured, sampled, tested and inspected in accordance with the material specification and the purchase order and was found to meet the requirements.

APPROUVÉ par / Approved by:

*Isabel Otero*

Isabel Otero  
Ingénieur

DATE: 2014-01-22

/ Nous certifions que toute l'information comprise sur ce rapport est exacte et conforme aux requis du client. / We certify that all the information on this report is exact and in accordance with the order requirements.